



Fisheries and Oceans Pêches et Océans  
Canada Canada

PATH No.: 13-HPAC-PA2-00689

Other DFO File No.:

## **PARAGRAPH 35(2)(b) FISHERIES ACT AUTHORIZATION**

### **Authorization issued to**

Seabird Island Band (*hereafter referred to as the "Proponent"*)

### **Attention to:**

Mr. Jay Hope, Corporate Affairs Director  
Box 650  
Agassiz, BC  
V0M 1A0

### **Location of Proposed Project**

Nearest community (city, town, village): Seabird Island  
Municipality, district, township, county: Fraser Valley Regional District  
Province: BC  
Name of watercourse, waterbody: Fraser River  
Longitude and latitude, UTM Coordinates: 121° 40' 24" West and 49° 17' 32" North

### **Description of Proposed Project**

The proposed project of which the work, undertaking or activity authorized is a part involves:

The extraction of between 95,000 cubic metres and 105,000 cubic metres of sediment (primarily gravel) from a gravel bar located below the high water mark of the Fraser River mainstem, adjacent to the Seabird Island Indian Reserve (the gravel bar is also referred to as Seabird Bar and Site B). The sediment removal site has a footprint of approximately 58,000 square metres and the average excavation depth is 1.7 metres. The project also includes the use of an existing access road across a seasonally dewatered side channel of the Fraser River. The access road, including a turnout, has a footprint of approximately 5,180 square metres.

### **Description of Authorized work(s), undertaking(s) or activity(ies) likely to result in serious harm to fish**

The work(s), undertaking(s), or activity(ies) associated with the proposed project described above, that are likely to result in serious harm to fish, are:

The extraction of between 95,000 cubic metres and 105,000 cubic metres of sediment from a gravel bar located below the high water mark of the Fraser River mainstem adjacent to Seabird Island (see Figure 1 in Northwest Hydraulic Consultants letter dated January 20, 2015 – Schedule I).

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**The serious harm to fish likely to result from the proposed work(s), undertaking(s), or activity(ies), and covered by this authorization includes**

The permanent alteration of 58,000 square metres of upper bar habitat in the Fraser river mainstem adjacent to Seabird Island (the gravel bar is also referred to as Seabird Bar and Site B).

**Conditions of Authorization**

The above described work, undertaking or activity that is likely to result in serious harm to fish must be carried on in accordance with the following conditions.

**1. Conditions that relate to the period during which the work, undertaking or activity that will result in serious harm to fish can be carried on**

The work, undertaking or activity that results in serious harm to fish is authorized to be carried on during the following period:

From date of issuance to March 15, 2015.

If the Proponent cannot complete the work, undertaking or activity during this period, Fisheries and Oceans Canada (DFO) must be notified in advance of the expiration of the above time period. DFO may, where appropriate, provide written notice that the period to carry on the work, undertaking or activity has been extended.

The periods during which other conditions of this authorization must be complied with are provided in their respective sections below. DFO may, where appropriate, provide written notice that these periods have been extended, in order to correspond to the extension of the period to carry on a work, undertaking, or activity.

**2. Conditions that relate to measures and standards to avoid and mitigate serious harm to fish**

- 2.1 Sediment and erosion control: Sediment and erosion control measures must be in place and shall be upgraded and maintained, such that release of sediment is avoided at the location of the authorized work, undertaking, or activity.
- 2.2 List of measures and standards to avoid and mitigate serious harm to fish:
  - 2.2.1 Access to the excavation site will be via the existing single lane (7 metre wide) road alignment across the seasonally dewatered side channel of the Fraser River.
  - 2.2.2 No fill placement will occur on the access road except a 40 metre long segment located on the vegetated portion of Seabird Bar.
  - 2.2.3 All works will be conducted behind low berms, entirely in the dry (i.e. no works in water will occur).
  - 2.2.4 Should the water level rise during the valid authorization period and flood any work area(s), all equipment must be moved to higher ground and works within wetted areas ceased until water levels recede.
  - 2.2.5 Staking and flagging of excavation boundaries will occur prior to commencement of any work and remain staked until all work is completed.
  - 2.2.6 A minimum 10 metre setback from the wetted channel will be maintained during the entire excavation process. Equipment or machinery shall not operate within 10 metres of the wetted edge of the Fraser River during any work activities.
  - 2.2.7 No sediment screening activities are to take place below the high water mark of the Fraser River.

- 2.2.8 Design/profiling of the excavation area to minimize the amount of temporal loss of rearing salmonid habitat will be completed as per the submitted plans (Northwest Hydraulic Consultants, January 20, 2015).
- 2.2.9 Any large woody debris found within the excavation boundary shall be stockpiled and then keyed into the excavated bar slope following the excavation.
- 2.3 Contingency measures shall be put in place if monitoring required in condition 3 below indicates that the measures and standards to avoid and mitigate serious harm to fish are not successful.
- 2.4 Dates by which these measures and standards shall be implemented: Measures and standards to avoid and mitigate serious harm to fish shall be implemented prior to commencement of works and shall remain in place until the project is completed or until March 15, 2015 (whichever occurs first).

**3. Conditions that relate to monitoring and reporting of measures and standards to avoid and mitigate serious harm to fish**

- 3.1 Monitoring of avoidance and mitigation measures: The Proponent shall monitor the implementation of avoidance and mitigation measures referred to in section 2 of this authorization and report to DFO, by May 30, 2015, and indicate whether the measures and standards to avoid and mitigate serious harm to fish were conducted according to the conditions of this authorization. This shall be done, by:
  - 3.1.1 Demonstration of effective implementation and functioning: Providing dated photographs and inspection reports to demonstrate effective implementation and functioning of mitigation measures and standards described above to limit the serious harm to fish to what is covered by this authorization.
  - 3.1.2 Contingency measures: Providing details of any contingency measures that were followed, to prevent impacts greater than those covered by this authorization in the event that mitigation measures did not function as described.
- 3.2 All authorized works, undertaking and activities shall be monitored by an appropriately qualified individual(s).
  - 3.2.1 Any issues or concerns related to compliance with this Authorization or unauthorized serious harm to fish should be reported to the DFO Observe, Record, Report line immediately at 1-800-465-4336.
  - 3.2.2 The Proponent shall provide the environmental monitor and contractors working at the project site with a copy of this Authorization. A copy of this Authorization shall be retained onsite at all times.
  - 3.2.3 The environmental monitor shall submit, by email to DFO, updates at a weekly interval, which include a tally of sediment removed to date, representative photographs of the work area(s), a summary of activities carried out, and identification of any environmental issues or incidents and how they were addressed.

**4. Conditions that relate to the offsetting of the serious harm to fish likely to result from the authorized work, undertaking or activity**

- 4.1 Letter of credit: DFO may draw upon funds available to DFO as the beneficiary of the letter of credit provided to DFO as part of the application for this authorization, to cover the costs of implementing the offsetting measures required to be implemented under this authorization, including the associated monitoring and reporting measures included in section 5, in instances where the Proponent fails to implement these required measures. DFO will release the letter of credit upon written request from the proponent and confirmation from DFO that all terms and conditions of this authorization have been met.
- 4.2 Scale and description of offsetting measures:
  - 4.2.1 The excavation design and profile is intended to replicate the summer rearing habitat (for salmonids) that will be impacted by the sediment extraction activities. Any large woody debris

found within the excavation boundary will be stockpiled and then keyed into the excavated bar slope following the excavation. Sediment replenishment to the site in subsequent freshets is expected to facilitate fish habitat recovery. The Proponent shall complete post-excavation monitoring, as described below in conditions 5.1.1 to 5.1.5, to evaluate habitat conditions and track habitat recovery over time. Repeated hydraulic habitat surveys and modelling are required specifically to evaluate the recovery of suitable habitat for select fish species within the excavation boundary. In the event that the monitoring components referenced in section 5.1 indicate that there is a net residual serious harm to fish habitat resulting from the authorized works beyond what was predicted, the Proponent will undertake further fish habitat offsetting, in addition to 4.2.2, to counter balance the net residual serious harm (see section 4.4 below).

4.2.2 A minimum of 500 square metres of fish habitat enhancement at Maria Slough will be completed by the Proponent. The fish habitat enhancement works will benefit chinook salmon rearing and/or spawning. A final plan must be submitted to DFO for approval by September 30, 2015. The final plan will include enhancement/restoration objectives, design drawings, implementation plans, timing of works, monitoring and reporting requirements. The enhancement works must be completed by October 31, 2016.

4.3 Offsetting criteria to assess the implementation and effectiveness of the offsetting measures: All fish habitat offsetting measures shall be completed and shown to be functioning as determined by the monitoring program components described in 5.1.1 to 5.1.5 and the monitoring program referenced in 4.2.2.

4.4 Contingency measures: If the results of monitoring for 4.2.1 and 4.2.2 as required in condition 5 indicate that the offsetting measures are not completed and/or are not functioning according to the above criteria in 4.3, the Proponent shall give written notice to DFO and shall implement contingency measures and associated monitoring measures to ensure the implementation of the offsetting measures is completed and/or functioning as required by this authorization (as per section 4.2.1).

4.5 The Proponent shall not carry on any work, undertaking or activity that will adversely disturb or impact the offsetting measures.

**5. Conditions that relate to monitoring and reporting of implementation of offsetting measures (described above in section 4):**

5.1 Schedule(s) and criteria: The Proponent shall conduct monitoring of the implementation of offsetting measures according to the approved timeline and criteria below:

5.1.1 One topographic survey has been completed prior to sediment removal in December 2014 for the purpose of engineering construction design. Two topographic surveys shall be conducted following sediment removal: 1) immediately following sediment removal prior to freshet; and 2) following the earlier of either a freshet with a peak daily flow of over 8,766 cubic metres per second ( $m^3/s$ , major freshet) or the freshet of 2017. Post-removal surveys are intended to assess the volume of gravel removed, footprint area disturbed, post-excavation profile of the site, and overall morphological impacts of the removal; therefore, the survey area shall be chosen in consultation with DFO to extend beyond the removal area to cover the area of potential morphological impact. The accuracy of topographic survey points will be +/- 0.04 metres horizontally and vertically.

5.1.2 Hydraulic surveys of the excavation area shall be conducted post-freshet in 2015 at a summer rearing flow of  $4,010 m^3/s$  ( $\pm 20\%$ ) to provide depth and velocity information sufficient for habitat modelling. The weighted usable area of habitat for select fish species by life-stage shall be computer modelled (e.g. using River2D) for the excavation area using habitat suitability indices developed and available from DFO. These data will then be compared to the pre-excavation data to evaluate habitat recovery. The survey shall be repeated at a comparable discharge in 2016, then following the earlier of either a major freshet ( $8,766 m^3/s$ ) or the freshet of 2017, and then every two years thereafter until habitat recovery at the site has been demonstrated or, if channel alignment has shifted, it is no longer relevant.

- 5.1.3 Surface sediment sampling will be conducted using the photographic method or the Wolman method. Samples will be collected just prior to excavation at the excavation site and at an upstream reference site and the Spring Bar reference site. For the photographic method, sediment density will be calculated in a 0.25 m<sup>2</sup> quadrat to calculate mean grain sizes for pre and post sediment removal comparison. Five replicate photographs will be taken for each representative sediment type at each site and geo-referenced for post removal comparison. In addition to the excavation site, sampling will be conducted at the two reference sites. Samples will be taken pre-excavation, post-excavation after the 2015 freshet, and then after a major freshet (8,766 m<sup>3</sup>/sec) or after the freshet of 2017.
- 5.1.4 Benthic invertebrates at the site were sampled but not analyzed in December 2012. These samples will be analyzed to the Family level as part of the monitoring program. Replicate benthic invertebrate sampling will be conducted three more times over the duration of the monitoring program. Sampling will occur at four locations each time: within the excavation footprint and at three appropriate reference sites. Sampling will occur: a) on the rising limb of the hydrograph in 2015 when the site is beginning to be inundated, b) post freshet on the falling hydrograph, and c) after the earlier of a major freshet or the freshet of 2017. All samples will be identified to the Family level by a qualified taxonomist. The samples taken in sample period "c" will be taken in the same calendar month as in sample period "b". All benthic invertebrate data is to be reported as # per unit area (e.g. # invertebrates /m<sup>2</sup>).
- 5.1.5 Habitat mapping was completed in 2014 based on discharge flows of approximately 3,780 m<sup>3</sup>/sec and 2,700 m<sup>3</sup>/sec (at Hope, BC) on August 2 and November 10, 2014 respectively. Aerial photographs were/will be used in conjunction with geo-referenced maps and photos to produce an ortho-correct habitat map identifying habitat classification units as per Church et al (2000). Habitat mapping using the same procedures will be repeated at similar flows (ideally 4000 m<sup>3</sup>/sec and 2500 m<sup>3</sup>/sec) in 2015.
- 5.1.6 Monitoring and reporting for the Maria slough offsetting measure will follow the plan as approved by DFO in condition 4.2.2.

5.2 List of reports to be provided to DFO: The Proponent shall report to DFO on whether the offsetting measures were conducted according to the conditions of this authorization by providing the following:

- 5.2.1 Within 60 days of completing each topographic survey, the surveyor shall provide DFO with an appropriately scaled contour drawing of the survey area, including survey point locations and survey boundary, and the calculated volumetric change between survey periods.
- 5.2.2 Annual results of the Monitoring Program described in 4.2.2 and 5.1.1 to 5.1.5 shall be submitted in electronic format to DFO by December 15<sup>th</sup> in each year of the Monitoring Program. The report shall include, but not be limited to, observations of fish habitat characteristics and availability, analyses of invertebrate density and community composition, observations and quantification of sediment replenishment and habitat recovery, site and aerial photographs, raw data as appendices, monitoring results and data analyses, and recommendations. Surface sediment photographs shall be provided to DFO in electronic format.
- 5.2.3 A final report of the Monitoring Program shall be submitted to DFO by March 1<sup>st</sup> following the year of final monitoring for all offsetting components to summarize the results of all annual monitoring reports and overall habitat recovery of the site.

#### Authorization Limitations and Application Conditions

The Proponent is solely responsible for plans and specifications relating to this authorization and for all design, safety and workmanship aspects of all the works associated with this authorization.

The holder of this authorization is hereby authorized under the authority of Paragraph 35(2)(b) of the *Fisheries Act*, R.S.C., 1985, c.F. 14 to carry on the work(s), undertaking(s) and/or activity(ies) that are likely to result in serious harm to fish as described herein. This authorization does not purport to release the

applicant from any obligation to obtain permission from or to comply with the requirements of any other regulatory agencies.

This authorization does not permit the deposit of a deleterious substance in water frequented by fish. Subsection 36(3) of the *Fisheries Act* prohibits the deposit of any deleterious substances into waters frequented by fish unless authorized by regulations made by Governor in Council.

This authorization does not permit the killing, harming, harassment, capture or taking of individuals of any aquatic species listed under the *Species at Risk Act* (SARA) (s. 32 of the SARA), or the damage or destruction of residence of individuals of such species (s. 33 of the SARA) or the destruction of the critical habitat of any such species (s. 58 of the SARA).]

At the date of issuance of this authorization, no individuals of aquatic species listed under the *Species at Risk Act* (SARA) were identified in the vicinity of the authorized works, undertakings or activities.

The failure to comply with any condition of this authorization constitutes an offence under Paragraph 40(3)(a) of the *Fisheries Act* and may result in charges being laid under the *Fisheries Act*. This authorization must be held on site and work crews must be made familiar with the conditions attached.

This authorization cannot be transferred or assigned to another party. If the work(s), undertaking(s) or activity(ies) authorized to be conducted pursuant to this authorization are expected to be sold or transferred, or other circumstances arise that are expected to result in a new Proponent taking over the work(s), undertaking(s) or activity(ies), the Proponent named in this authorization shall advise DFO in advance.

Date of Issuance: FEB 09 2015

Approved by:  
Susan Farlinger  
Regional Director General  
Pacific Region  
Fisheries and Oceans Canada

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Your file      Votre référence

MAR 13 2015

Our file      Notre référence  
13-HPAC-PA2-00689

Mr. Jay Hope  
Corporate Affairs Director, Seabird Island Band  
2895 Chowat Road  
Agassiz, BC V0M 1A0

Dear Mr. Hope:

**Subject: Notification of modifications to dates in conditions of Paragraph 35(2)(b)  
*Fisheries Act* authorization (13-HPAC-PA2-00689)**

The Fisheries Protection Program (the Program) of Fisheries and Oceans Canada hereby modifies the conditions that relate to the period during which the work, undertaking or activity that will result in serious harm to fish can be carried on, for the authorization issued to you under paragraph 35(2)(b) of the *Fisheries Act* on February 9, 2015.

The period during which the work, undertaking, or activity can be carried on is now from February 9, 2015 to March 31, 2015 or until the Fraser River flows at Hope, BC (from the Water Survey of Canada gauge) reaches or exceeds 2000 cubic metres per second (cms). If the Fraser River flow at Hope, BC reaches or exceed 2000 cms prior to March 31, 2015, all site demobilization activities (including the post-excavation topographic survey) must be initiated immediately and completed prior to inundation of the work site. Other dates in the authorization are modified as follows: condition 2.4 is also changed to March 31, 2015 or until the Fraser River flows at Hope, BC (from the Water Survey of Canada gauge) reaches or exceeds 2000 cms.

The Program has determined that the modification of the dates in the conditions of authorization will not increase the level of harm to fish and habitat described in the authorization.

A copy of this authorization and a copy of this letter must be kept on site while the work is in progress. Work crews must be familiar with and able to adhere to the conditions.

Failure to comply with the conditions of the authorization may lead to prosecution under the *Fisheries Act*.

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If you or anyone conducting work on your behalf has any questions, please contact Jeff Guerin at our Kamloops office by e-mail at [Jeff.Guerin@dfo-mpo.gc.ca](mailto:Jeff.Guerin@dfo-mpo.gc.ca) or by telephone at 250-851-4944 (desk) or 250-319-3665 (cellular).

Yours sincerely,



Susan Farlinger  
Regional Director General  
Pacific Region

cc     Jeff Guerin, Fisheries and Oceans Canada  
         Brad Fanos, Fisheries and Oceans Canada  
         Remko Rosenboom, Forest Lands and Natural Resource Operations  
         Sandra Jensen, Forest Lands and Natural Resource Operations  
         Scott Barrett, Forest Lands and Natural Resource Operations

